

# Delivering the Data

OB Outcomes at NMC, 2022–2025

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[research.csvs.org](https://research.csvs.org)

# At a Glance: 2022–2025

**3,093**

Total Deliveries

811|729|749|804

'22|'23|'24|'25

Ave: 773/yr

Twins 24 (6 sets/yr)

**~24%**

C-Section Rate

24.2|23.8|24.6|24.5

'22|'23|'24|'25

**7.6%**

Preterm Rate

7.4|7.8|7.5|7.7

'22|'23|'24|'25

**0.97%**

Adverse Mortality

0.87|0.82|1.07|1.12

'22|'23|'24|'25

(IUFD + in-hospital deaths)

**28**

Mothers' Median Age

28|27|28|28

'22|'23|'24|'25

**2813 unique mothers.**  
**90.5% (2546) first-timers;**  
**9.1% (255) second-timers.**  
Max deliveries: 3

**3,260g**

Median Birth Wt

3270|3240|3260|3270

'22|'23|'24|'25

(7lbs 3oz)

**~75%**

VBAC Success

74|76|75|75

'22|'23|'24|'25

**p=0.83**

Full Moon Effect

*Not significant*

# Adverse Mortality & Benchmarks

CSVS OB Outcomes 2022–2025 vs. National, California & Hispanic Rates

**20**

**Stillbirths (IUFD)**

6.5 per 1,000 deliveries

9 out of 20 in High-Risk Prenatal Group

**10**

**In-hospital Deaths**

3.2 per 1,000 live births

9 out of 10 born Premie

**0.97%**

**Adverse Mortality**

30 / 3,096 deliveries  
9.7 per 1,000 deliveries

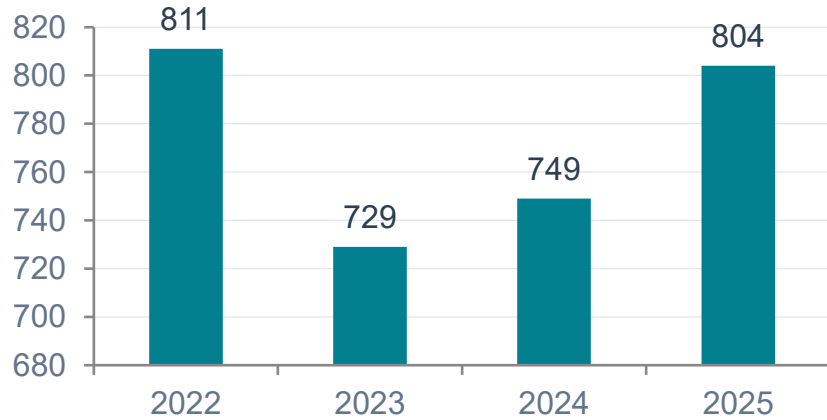
**No Maternal Deaths**

## Benchmark Comparison

| Metric   | CSVS<br>2022–2025     | U.S.<br>Overall | U.S.<br>Hispanic | California | Source / Year                      |
|--|-----------------------|-----------------|------------------|------------|------------------------------------|
| Fetal Mortality (IUFD)<br>(per 1,000 deliveries) | 6.5                   | 5.41            | 4.63             | 5.06       | CDC 2024;<br>CDC 2022; CTK '19–'23 |
| Neonatal Mortality<br>(per 1,000 live births)    | 3.2*<br>(In-hospital) | 3.65            | ~3.35            | —          | CDC NVSR 2023                      |
| Infant Mortality<br>(per 1,000 live births)      | —                     | 5.61            | 5.03             | —          | CDC NVSR 2023                      |

Note: CSVS rates based on 3093 total deliveries over 4 years. Small denominators limit inferential comparison. Hispanic benchmarks reflect predominantly Mexican-origin subgroup nationally.

# Annual Delivery Volume



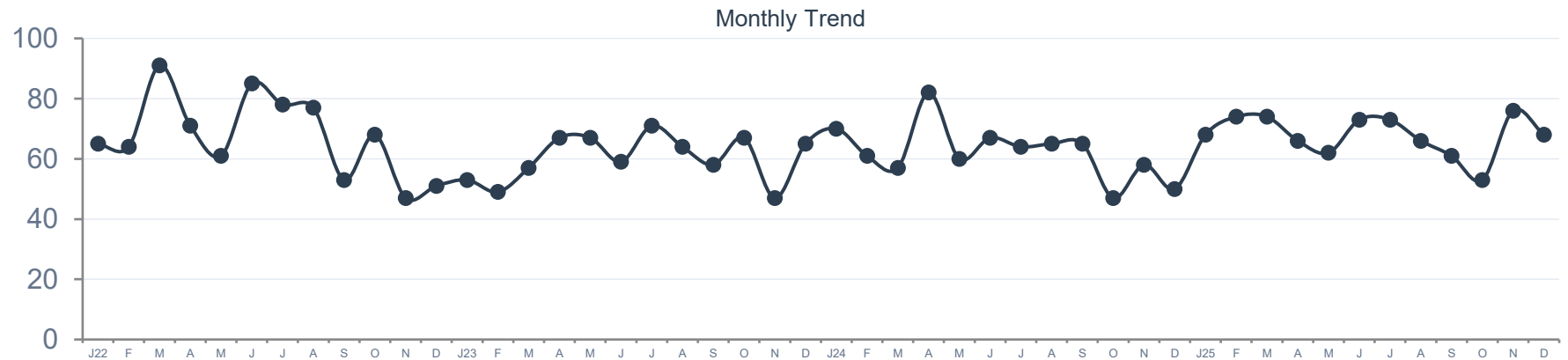
**Stable ~770/yr**

Peak: Mar & Jun

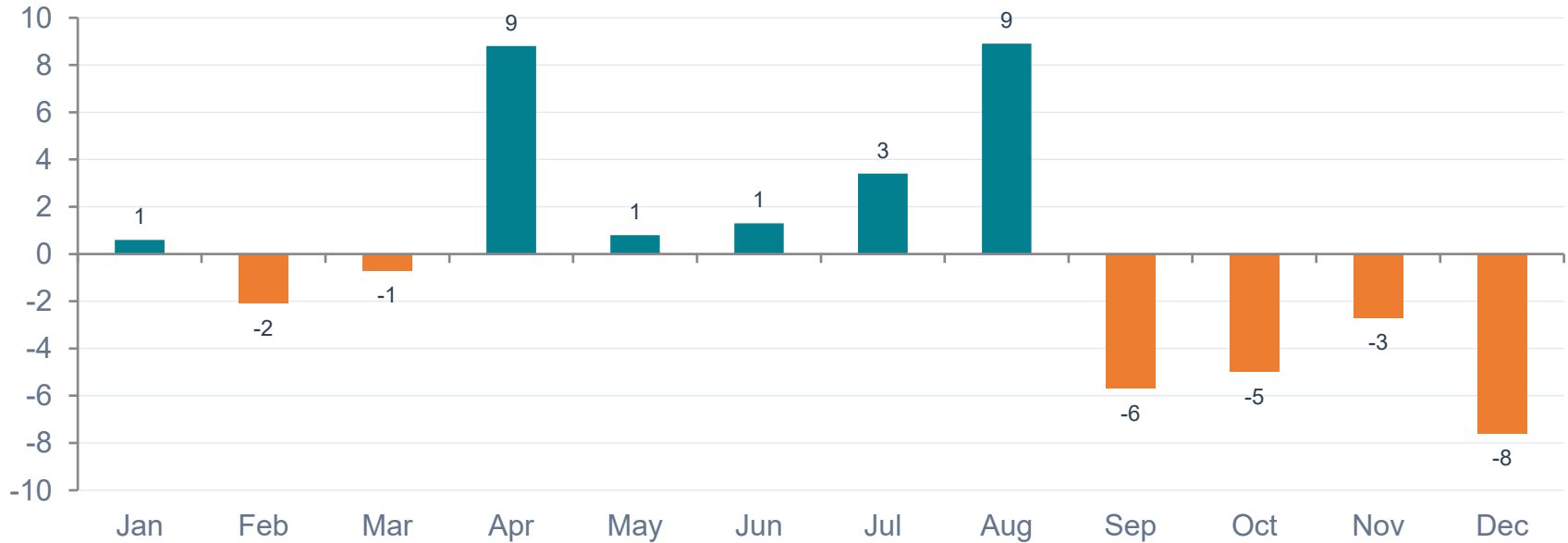
Trough: Oct–Feb

May: narrowest range

**Predicted for 2026: 786 (80% conf interval: 669-908)**

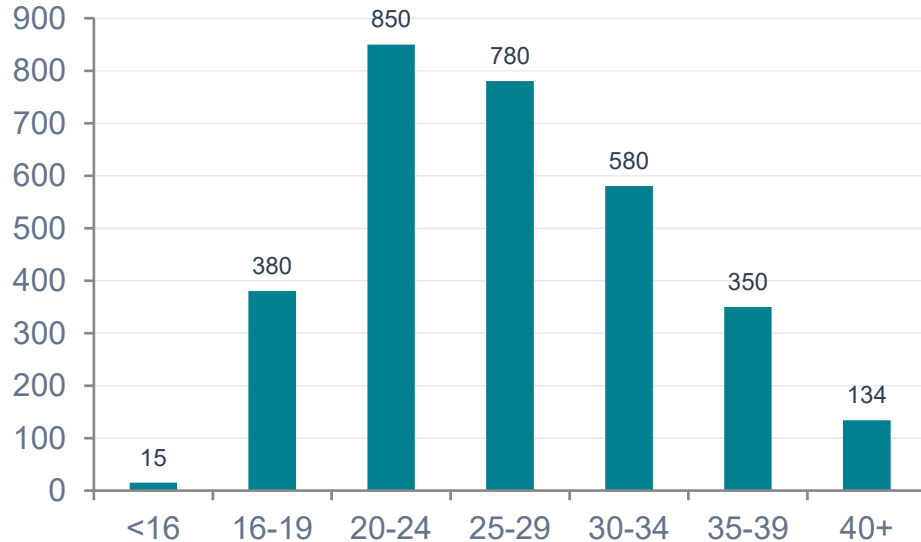


# Seasonal Patterns



Pattern favors higher conception rates during summer and fall months

# Maternal Demographics



**Median: 28 yrs | ~99% Hispanic**

Age range: 13 - 46

Adolescent (<20): ~25%

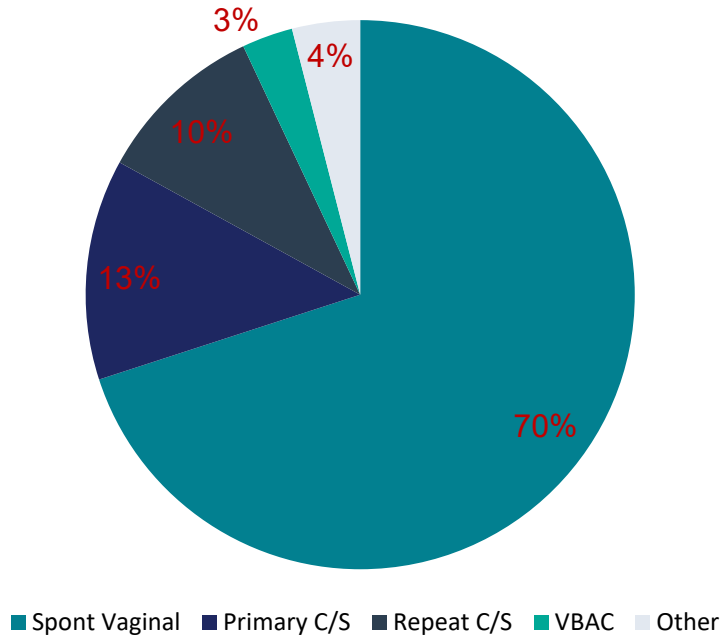
AMA ( $\geq 35$ ): elevated risk

Nulliparous: ~25%

Grand multip ( $\geq 5$ ): 3-4%

*25 twin deliveries | 247 repeat mothers*

# Delivery Method



**Total C-section: ~24%**

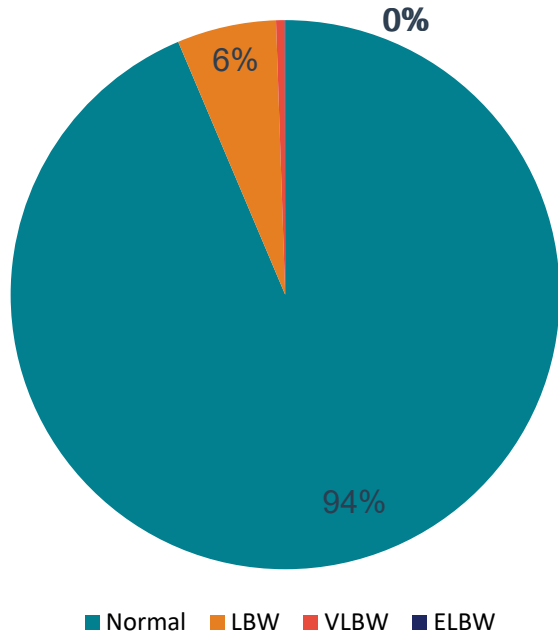
Primary: ~13% | Repeat: ~10%

**VBAC success: ~75%**

vs National: 32.4% | CA: ~31%

HP 2030 target: 23.6%

# Neonatal Outcomes



**Median birth wt: 3,260g**

Preterm: 7.6% | Mean GA: 38.6 wks

**Preterm benchmarks:**

CSVS: 7.6%

CA Hispanic: 9.3% | US Hispanic: 10.1%

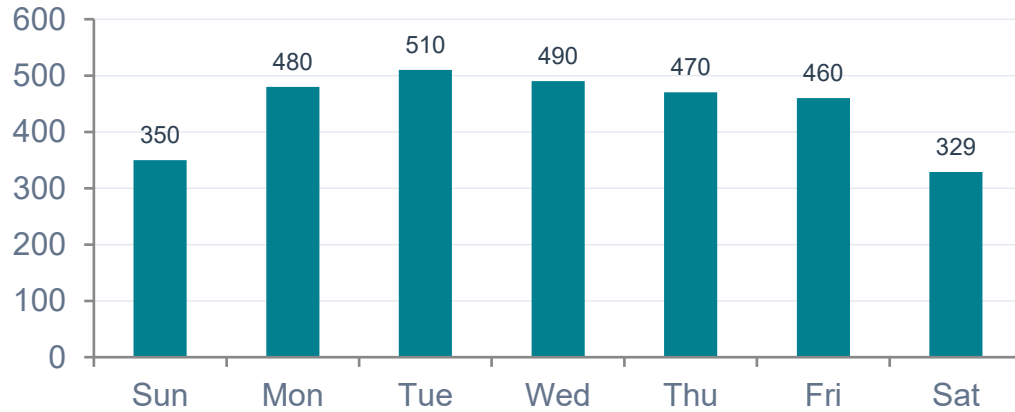
LBW: 5.8%

vs CA LBW: 7.3% | US: 8.6%

Very LBW: 0.5%

Extremely LBW: 0.03%

# Timing Patterns



## Weekday > Weekend

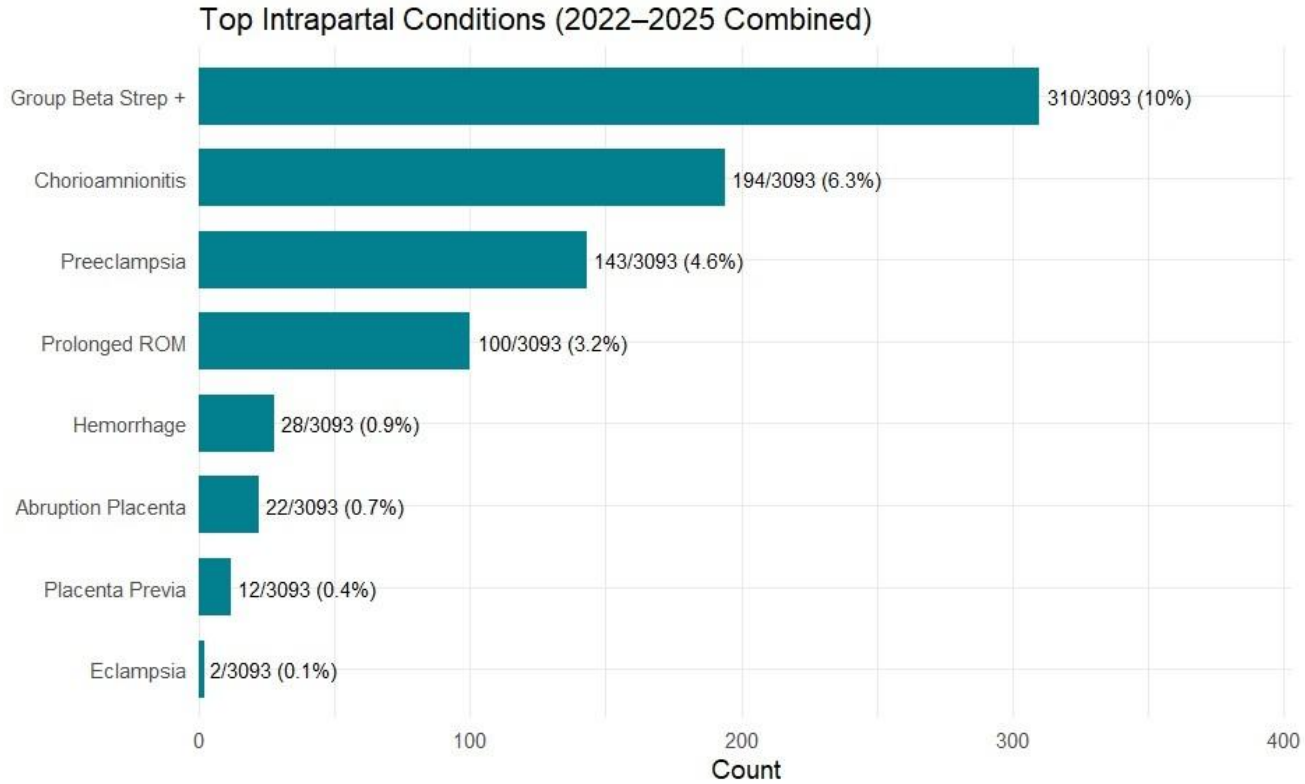
(may reflect scheduled C-sections and inductions)

Day shift: highest volume

## Lunar Phase: $p = 0.83$

No association. Full moon myth not supported by 4 years of data.

# Top Intrapartal Conditions (2022–2025 Combined)



# Cluster Analysis

*K-means (k=3) on maternal age, Gestational Age, Term status, weight & Apgar*

## High-Risk Preterm

n=192

**Age (mean / median):** 29.2 / 29 yrs

**GA:** 33.5 wks

**Wt:** 1,908g

**Apgar:** 7/8

**Preterm:** 62%

**LBW:** 91.1%

## Term — Older Mothers

n=3,467

**Age (mean / median):** 33.4 / 33.0 yrs

**GA:** 39.3 wks

**Wt:** 3,467g

**Apgar:** 8/9

**Preterm:** 1.2%

**LBW:** 0.2%

## Term — Younger Mothers

n=3,286

**Age (mean / median):** 22.9 / 23.0 yrs

**GA:** 39.7 wks

**Wt:** 3,286g

**Apgar:** 8/9

**Preterm:** 0.7%

**LBW:** 2.1%

# Benchmarking

| Metric             | CSVS | Monterey | California | U.S.  |
|--------------------|------|----------|------------|-------|
| Preterm            | 7.6% | ~8.5%    | 9.1%       | 10.4% |
| Preterm (Hispanic) | 7.6% | —        | 9.3%       | 10.1% |
| C-section          | ~24% | —        | ~31%       | 32.4% |
| LBW                | ~9%  | ~7%      | 7.3%       | 8.6%  |

CSVS preterm and C-section rates notably below state and national averages. Hispanic-specific comparison most relevant for ~99% Hispanic population.

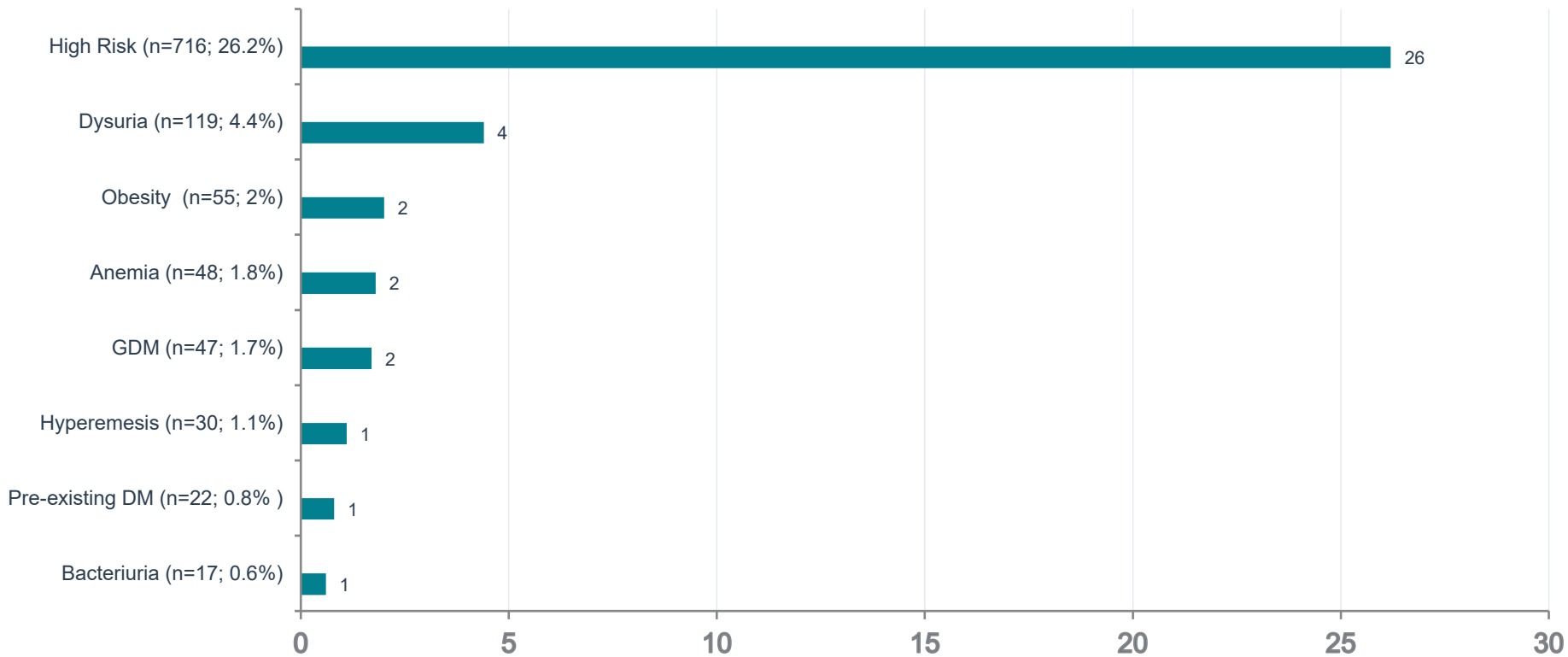
# Prenatal Care & Delivery Outcomes

Linking CSVS Clinic Records to NMC Delivery Data

3072 CSVS records matched 3,093 NMC deliveries records (99.2% match)  
2971 of 3093 deliveries had Prenatal Care at CSVS (96%)

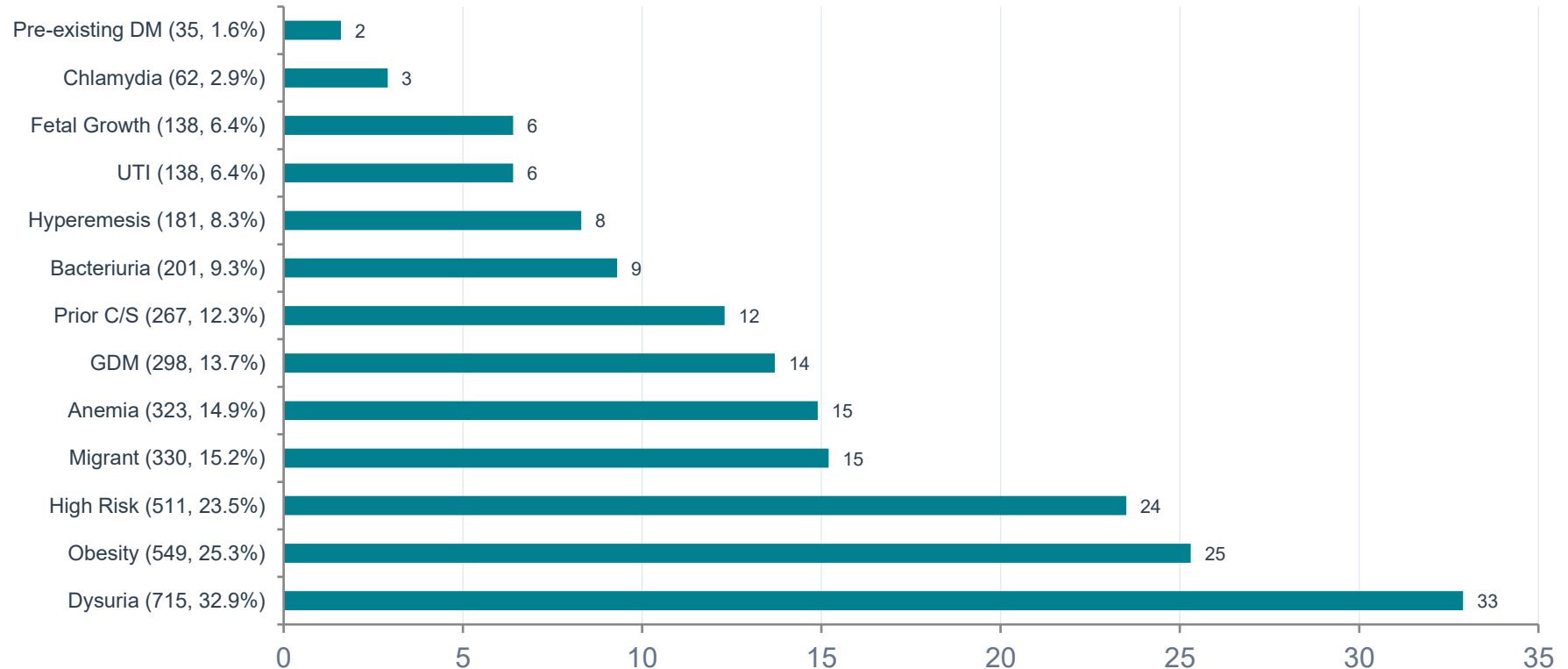
# Prenatal Condition Prevalence (%) Among Mothers

*Among 2,734 matched mothers with deliveries*



# Prenatal Condition Prevalence (%) *Among Deliveries*

*Among 2,971 matched deliveries over 4-yr period*



# GDM, Obesity & Delivery Outcomes

## GDM (n=403, 13.8%)

- ↑ C-section rate
- ↑ LGA / macrosomia (>4kg)
- ↑ Mean birth weight

*GDM drives fetal overgrowth, increasing operative delivery risk.*

## Obesity (n=679, 22.9%)

- ↑ C-section rate
- ↑ LGA and macrosomia
- ↑↑ GDM co-occurrence

*Obesity + GDM amplifies risk. Both warrant combined surveillance.*

# Hypertension, Preeclampsia & Delivery Outcomes

## Preeclampsia (n=11 / 0.4%)

- ↑ C-section & preterm rates
- ↑ LBW and SGA
- ↓ Mean gestational age

**Prenatal → intrapartal concordance tracked:** *Small n limits statistical power*

## All HTN Disorders (n=47 / 1.6%)

- Pre-existing HTN: 18 (0.6%)
- Gestational HTN: 18 (0.6%)
- Preeclampsia: 11 (0.4%)

**Combined: strongest associations with C-section, preterm, and SGA.**

# Postpartum Depression: Documentation Gap

0.7%

Documented at CSVS  
9/1,237 visits

10–15%

National PPD  
CDC/ACOG estimate

**Opportunity:** Strengthen PPD screening and coding. 15–20× gap likely due to under-screening, not low prevalence.

# Key Findings

## Basis: 3093 deliveries in 4 years (2022-2025)

**Volume:** Stable ~770/yr. Seasonal: Mar/Jun peaks, Oct–Feb trough:

- *2 children born to CSVS mothers every day; including 1 set of twins every 2 months*

**C-section:** ~24% (primary 13%, repeat 10%). VBAC ~75%. Below national 32.4%.

**Preterm:** 7.6% — below CA Hispanic (9.3%) and US Hispanic (10.1%).

**Intrapartal:** GBS+ (10%), Chorioamnionitis (6.3%), Preeclampsia (4.7%).

**Prenatal top 5:** Dysuria 32.9%, Obesity 25.3%, High Risk 23.5%, Anemia 14.9%, GDM 13.7%.

**CSVs advantage:** Lower preterm (7.5 vs 8.3%), LBW (6 vs 7%), C/S (23.8 vs 25.6%).

**Postpartum Depression gap:** 0.7% documented vs 10–15% expected. Screening opportunity.

**Stillbirth:** Rising 0.37%→0.87%. (0.65% averaged over 4 years.) 40% in high risk prenatal group. Warrants monitoring.

**In-hospital Deaths:** 0.32% in 4 –year period: comparatively high. (9/10 deaths are Preemies)

Maternal deaths: NONE

# Thank You

Full report at [research.csvs.org](https://research.csvs.org)

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